

**ADVANCE DATA**

**MECHANICAL DATA**

Bulb	T-6 1/2
Base	E9-1, Miniature Button 9-Pin
Outline	6-3
Basing	9GS
Cathode	Coated Unipotential
Mounting Position	Any

**ELECTRICAL DATA**

**HEATER CHARACTERISTICS**

Heater Voltage <sup>1</sup>	12.6	Volts
Heater Current	550	Ma
Heater-Cathode Voltage (Design Center Values)		
Heater Negative with Respect to Cathode	30	Volts
Heater Positive with Respect to Cathode	30	Volts

**DIRECT INTERELECTRODE CAPACITANCES (Unshielded)**

<b>Triode Section</b>			
Grid to Plate	5.7	$\mu$ f	
Input: g to (k + h)	1.8	$\mu$ f	
Output: p to (k + h)	0.4	$\mu$ f	
<b>Tetrode Section</b>			
Grid No. 2 to Plate	14	$\mu$ f	
Input: g2 to (g1 + k + h)	13	$\mu$ f	
Output: p to (g1 + k + h)	1.6	$\mu$ f	
Coupling: (tetrode g2 to triode g1)	0.01	$\mu$ f	Max.

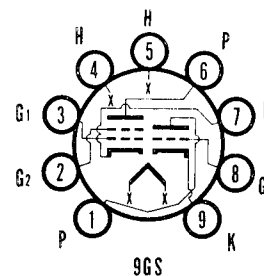
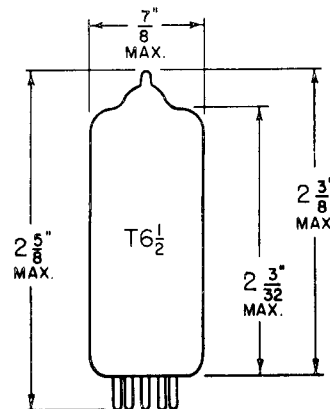
**RATINGS (Design Center Values)**

	Triode Section	Tetrode Section		
Plate Voltage	30	30	Volts	Max.
Positive Grid No. 1 Voltage, Abs. Max. (Space Charge Grid)		16	Volts	Max.
Negative Grid No. 2 Voltage		20	Volts	Max.
Cathode Current	20		Ma	Max.
Grid Circuit Resistance	10		Megohms	Max.
Grid No. 2 Circuit Resistance		10	Megohms	Max.

**QUICK REFERENCE DATA**

The Sylvania Type 12AL8 is a medium  $\mu$  triode and space-charge grid tetrode with independent grid cathodes. The triode section is intended for use as a voltage amplifier and the tetrode section is intended for use as an audio power amplifier driver.

It is designed for operation where the heater, plate and screen voltages are obtained directly from a 12 volt automotive storage battery.



**SYLVANIA ELECTRIC PRODUCTS INC.**

**RADIO TUBE DIVISION  
EMPORIUM, PA.**

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CHARACTERISTICS AND TYPICAL OPERATION

Class A<sub>1</sub> Amplifier

	Triode Section	Tetrode Section	
Plate Voltage	12.6	12.6	Volts
Grid No. 1 Voltage (Space-Charge Grid)		12.6	Volts
Grid Voltage <sup>2</sup>	-0.9	0.5 <sup>3</sup>	Volts
Plate Current	0.5	40	Ma
Grid No. 1 Current (Space-Charge Grid)		75	Ma
Transconductance	1000	15000 <sup>4</sup>	μmhos
Amplification Factor	13	7.2 <sup>4</sup>	
Plate Resistance	13000	480	Ohms

Resistance-Coupled Cascaded Amplifier (See Circuit)

	Triode Section	Tetrode Section	
Plate Voltage		12.6	Volts
Plate Supply Voltage	12.6		Volts
Grid No. 1 Voltage (Space-Charge Grid)		12.6	Volts
Grid Resistor <sup>2</sup>	2.2	2.2	Megohms
Grid Blocking Capacitor	0.1	0.1	μf
AF Grid Voltage	0.18		Volts
Plate Current		8.0 <sup>5</sup>	Ma
Grid No. 1 Current (Space-Charge Grid)		75	Ma
Load Resistance	330K	800	Ohms
Power Output		40	Mw
Total Harmonic Distortion		10	Percent

NOTES:

1. This tube is intended for use in automobile radios operated from a nominal 12 volt battery. Design of the tube is such that the heater will operate satisfactorily over the range 10.0 volts to 15.9 volts, and that the maximum ratings provide a safety factor for the wide voltage variation encountered with this type of supply.
2. Average contact potential developed across a 2.2 megohms resistor.
3. Grid No. 2 being the control grid.
4. From Grid No. 2 to plate.
5. Zero-signal plate current is approximately 40 ma.

RESISTANCE COUPLED CASCADED AMPLIFIER CIRCUIT

